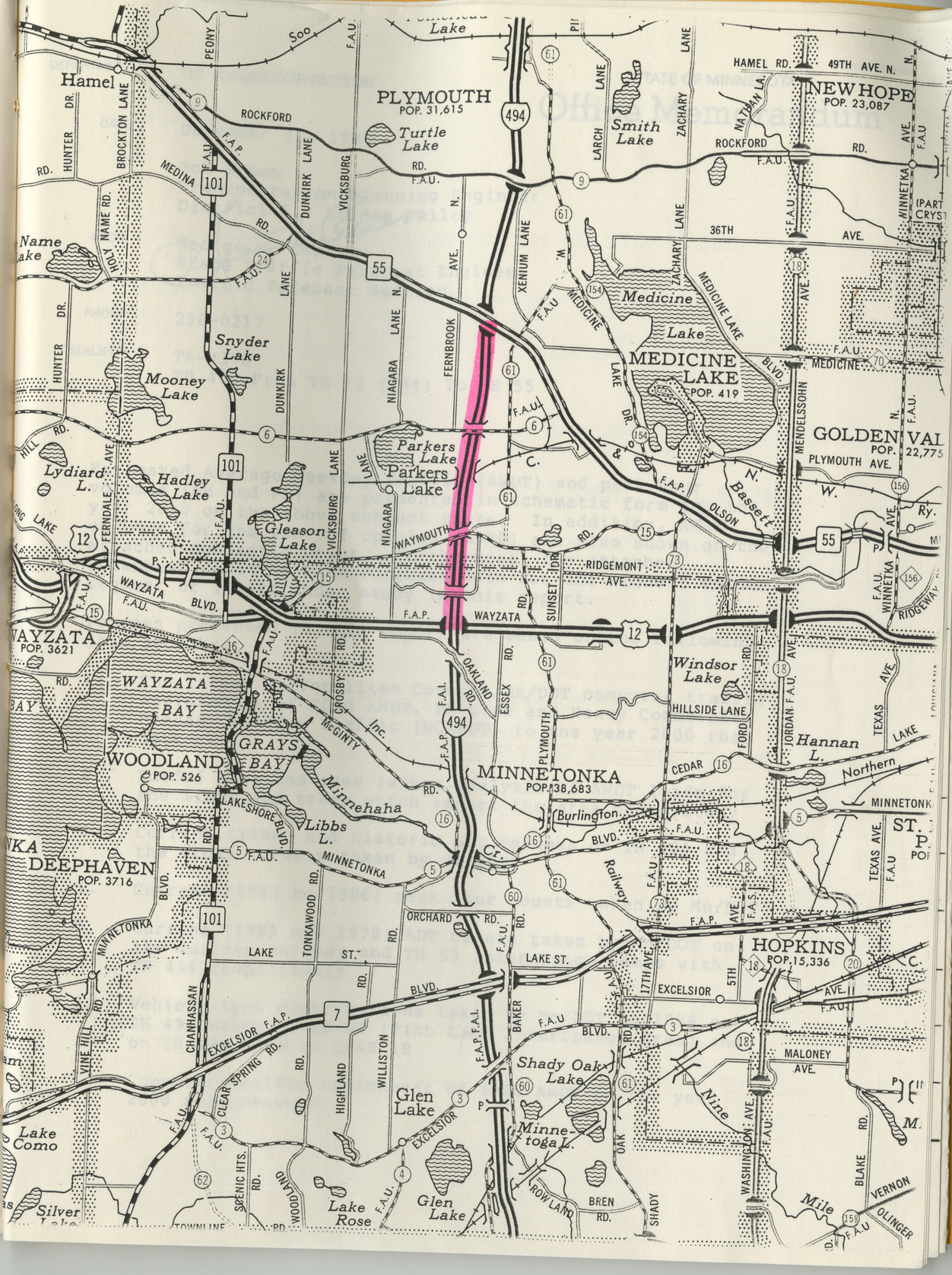
Transportation Analysis

TA-M358
TH 494 from TH 12(394) to TH 55

PREPARED BY
THE MINNESOTA DEPARTMENT OF TRANSPORTATION
PROGRAM MANAGEMENT DIVISION
TRAFFIC FORECASTS SECTION



Hamel
PLYMOUTH
POP. 31,615
Turtle Lake
Smith Lake
NEW HOPE
POP. 23,087
HAMEL RD.
49TH AVE. N.
ROCKFORD
RD.
MEDINA
RD.
HUNTER DR.
BROCKTON LANE
PEONY
Soo
F.A.P.
F.A.U.
DUNKIRK LANE
VICKSBURG
LARCH LANE
ZACHARY LANE
NATHAN LA.
WINNETKA AVE.
36TH
AVE.
Name Lake
HOLY NAME RD.
XENIUM LANE
FERNBROOK AVE.
NIAGARA LANE
Medicine Lake
MEDICINE LAKE
POP. 419
MEDICINE LAKE BLVD.
MENDELSSOHN
MEDICINE
Snyder Lake
Mooney Lake
GOLDEN VAL
POP. 22,775
PLYMOUTH AVE.
Lydiard L.
Hadley Lake
Parkers Lake
Gleason Lake
WAYMOUTH
Bassett
OLSON
RIDGEMONT AVE.
SUNSET DR.
WAYZATA BLVD.
WAYZATA
POP. 3621
WAYZATA BAY
GRAYS BAY
WOODLAND
POP. 526
Minnehaha
LAKESHORE BLVD.
Libbs L.
MINNETONKA
DEEPHAVEN
POP. 3716
OAKLAND RD.
ESSEX RD.
PLYMOUTH
MINNETONKA
POP. 38,683
Burlington
BLVD.
Railway
Windsor Lake
HILLSIDE LANE
CEDAR
Hannan L.
Northern
MINNETONKA
ST.
TEXAS AVE.
JORDAN AVE.
ORCHARD RD.
LAKE ST.
HOPKINS
POP. 15,336
EXCELSIOR
MALONEY AVE.
17TH AVE.
5TH AVE.
BAKER RD.
Shady Oak Lake
Minnetoga L.
Glen Lake
Glen Lake
Lake Rose
TONKAWOOD RD.
CHANHASSAN
EXCELSIOR
CLEAR SPRING RD.
HIGHLAND
WILLISTON
Lake Como
Silver Lake
VINE HILL
SCENIC HTS. RD.
WOODLAND
TOWNLINE
ROW LAND
BREN RD.
SHADY
WASHINGTON AVE.
BLAKE RD.
Nine Mile
VERNON
OLINGER
494
55
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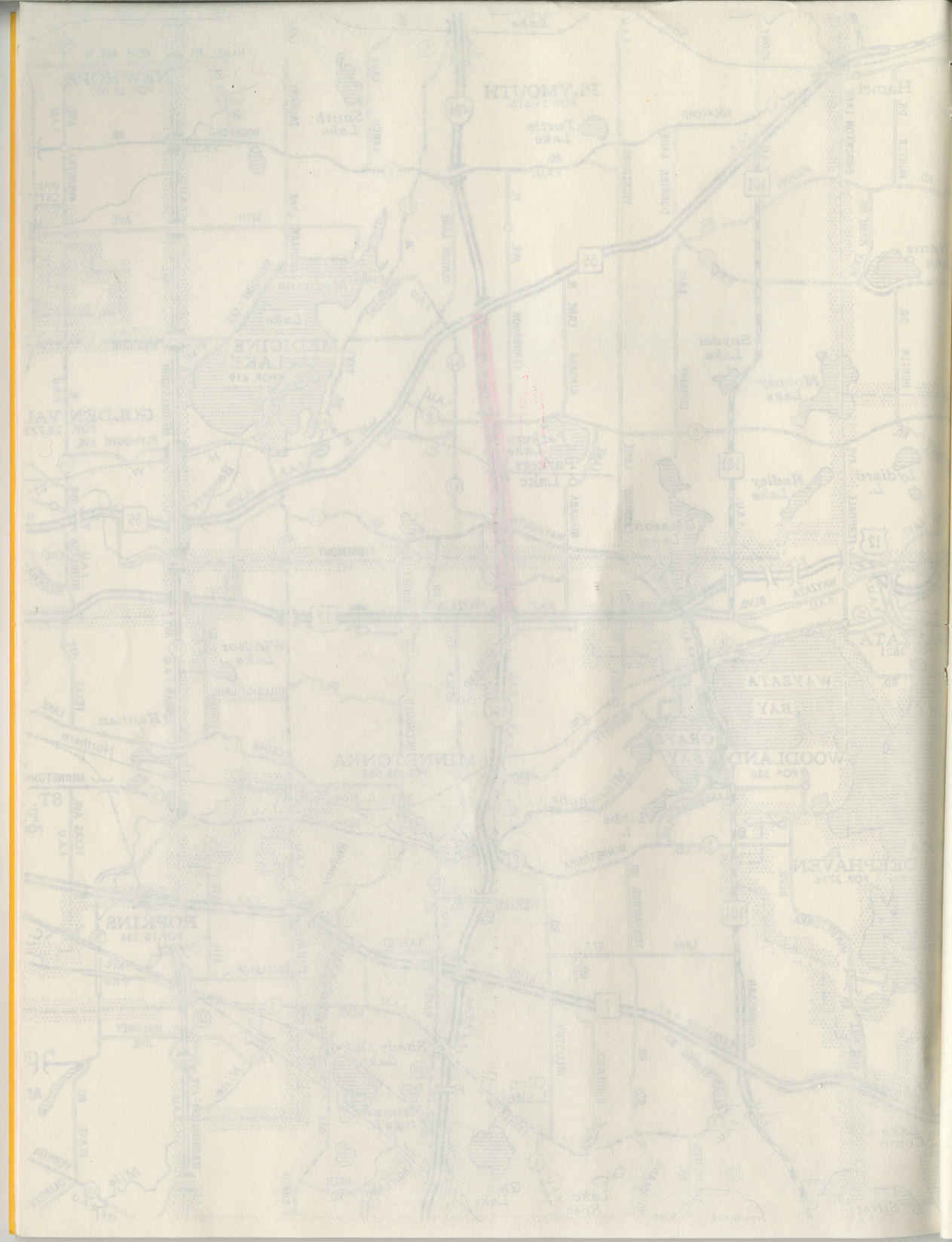
158



DEPARTMENT : OF TRANSPORTATION

STATE OF MINNESOTA

Office Memorandum

SF-00006-05 (4/86)

DATE : December 21, 1987

TO : Bob Brown
Transportation Planning Engineer
District 5 - Golden Valley

FROM : George M. Cepress
State Traffic Forecast Engineer
Traffic Forecast Section

PHONE : 296-0217

SUBJECT : TA-M358
TH 494 From TH 12 (394) To TH 55

Estimated Average Weekday Traffic (AWDT) and peak hour volumes (AM and PM) are presented in schematic form for the year 2010 on the above subject route. In addition, AWDT volumes for the year of opening (1990) are also shown on the attached schematic print. Furthermore, the attached worksheet contains ESAL forecast data for the highest volume segment of TH 494 under study in this report.

Volumes presented in this report are based on the following data sources:

1. The latest Metropolitan Council/Mn/DOT computer traffic assignments of 2010 AWDT, PM peak and Heavy Commercial Average Weekday Traffic (HCAWDT) to the year 2000 road network

2. Loaded link and tree (zone) analysis of AWDT loads for the links and trees which impact the area under study

3. Current (1986) and historic ADT volumes on TH 494 and the cross streets taken by Mn/DOT

4. Current (1983 to 1986) peak hour counts taken by Mn/DOT

5. Current (1985 and 1978) ADT counts taken by Mn/DOT on the Carlson Parkway and TH 55 interchange ramps with TH 494 respectively

6. Vehicle type distributions taken by Mn/DOT in 1986 on TH 494 south of TH 94 (Fish Lake Interchange Area) and on TH 494 west of CSAH 18

7. Computer traffic assignment of 1980 AWDT on the year 2000 road network

8. ESAL damage factors from the TH 494 WIM site at Bush Lake Road

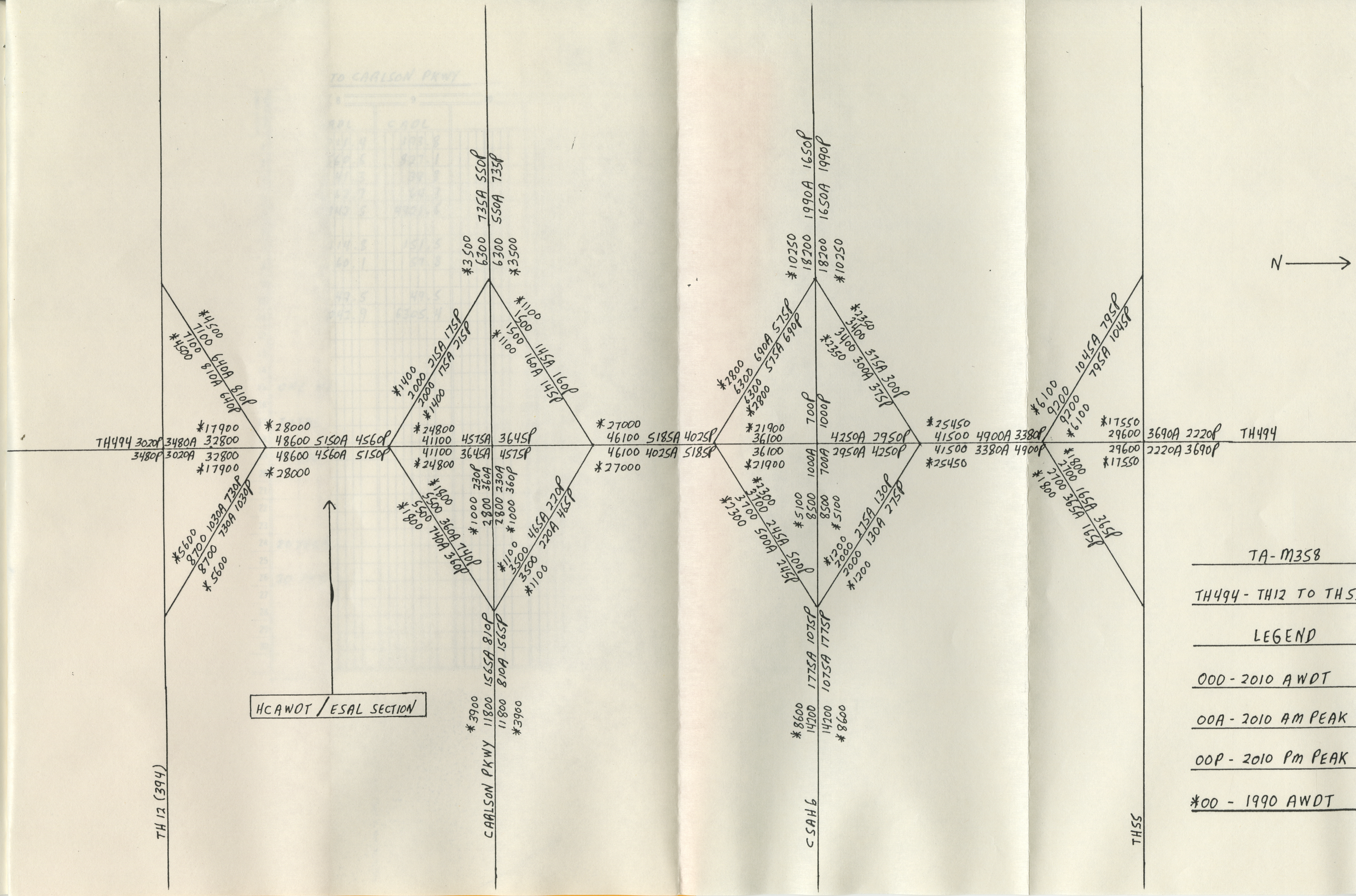
It should be pointed out that the enclosed traffic data for pavement determination (see worksheet) has been revised from the figures sent out on August 24, 1987 in a memorandum from George Cepress to Rick Dalton. The following table compares the two sets of figures:

Pavement Determination Values on TH 494 from TH 12 (394) to TH 55

	August 24 Memo		TA-M358	
One Way Lanes	2	3	2	3
One Way ADT (2010)	54500	54500	48600	48600
One Way Design Lane ADT (2010)	49050	38150	48600	34020
One Way TST (2010)	2082	2082	1846	1846
One Way Design Lane TST (2010)	1874	1457	1846	1292
20 Year BESAL (1990-2010)	15.52M	12.07M	14.77M	10.34M
20 Year CESAL (1990-2010)	24.60M	19.13M	23.03M	16.12M

We recommend using the TA-M358 numbers for either two or three lane one way design.

If you have any additional questions please call Jim Page at 296-1626.


TH494
TH12 (394)
CARLSON PKWY
CSAH 6
TH55
HCAWOT / ESAL SECTION
N
TA-M358
TH494 - TH12 TO TH55
LEGEND
000 - 2010 AWDT
00A - 2010 AM PEAK
00P - 2010 PM PEAK
*00 - 1990 AWDT

TA-M358

	Initials	Date
Prepared by		
Approved by		

WORKSHEET FOR ESAL CALCULATIONS ON TH494 FROM TH12(394) TO CARLSON PKWY

	VEHICLE TYPE	1990	2010	2000	PERCENT	2000	BESAL	CESAL	BADL	CADL
1	2AXLE SU				2.3	1762	.12	.11	211.4	193.8
2	3OR>AXLE SU				1.2	919	.61	.90	560.6	827.1
3	3AXLE TST				.2	153	.27	.26	41.3	39.8
4	4AXLE TST				.2	153	.41	.42	62.7	64.3
5	5OR>AXLE TST				3.4	2604	1.13	1.89	2942.5	4921.6
6	TOTAL TST				3.8	2910				
7	TRUCK TRAIL & BUS				.2	153	.75	.99	114.8	151.5
8	TWIN TRAILER				.1	77	.78	.75	60.1	57.8
9	TOTAL HC				7.6	5821				
10	CARS				92.4	70779	.0007	.0007	49.5	49.5
11	TOTAL	56000	97200	76600	100.0	76600			4042.9	6305.4

ONE WAY TOTAL TST FOR 2010 = 2910 X 97200/76600 X .5 = 1846

TOTAL 20 YEAR BESAL = 4042.9 X 365.25 X 20 = 29533385

TOTAL 20 YEAR CESAL = 6305.4 X 365.25 X 20 = 46060947

	LANES (DLF)	
	4 (.50)	6 (.35)
20 YEAR BESAL IN DESIGN LANE	14766693	10336685
20 YEAR CESAL IN DESIGN LANE	23030474	16121331